DOCUMENT RESUME

ED 230 857 CG 016 724

AUTHOR Banziger, George; Roush, Sharon
TITLE Nursing Homes for the Birds: A Control-Relevant Intervention with Bird Feeders.
PUB DATE 21 Nov 82
NOTE 24p.; Paper presented at the Annual Scientific Meeting of the Gerontological Society (35th, Boston, MA, November 19-23, 1982). Best copy available.
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Gerontology; Helplessness; Individual Power; Intervention; *Life Satisfaction; Locus of Control; *Nursing Homes; *Older Adults; Program Effectiveness; *Responsibility; Well Being; Wildlife
IDENTIFIERS Birds

ABSTRACT

Many gerontologists have noted the tendency of nursing homes to nurture dependency and learned helplessness in residents. To test the effectiveness of a control-relevant intervention strategy, nursing home residents (N=40) were given the opportunity to care for wild birds by tending individually placed bird feeders. Residents were assigned to one of three groups: those who received (by choice) a bird feeder to tend and a short lecture emphasizing their responsibility for themselves; those who received no bird feeder but a dependency message, i.e., a lecture emphasizing the staff's responsibility for them; and those who received neither feeder nor message. Results showed that the bird feeder/responsibility group had significantly higher scores than either of the other groups on post-intervention measures of life-satisfaction and on self-reported measures of perceived control, happiness, and activity. Significant improvement was also found in nurses' ratings of activity, happiness, alertness, sleeping time, complaints, and sociability for the responsibility group. (Author/JAC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

BEST COPY AVAILABLE

ED230857

Nursing Homes for the Birds: A Control-Relevant Intervention with Bird Feeders[1]

George Banziger and Sharon Roush[2]

Acknowledgments

Bird feeders and information about local birds were provided with the assistance of William and Elsa Thompson, publishers of Bird-Watchers' Digest. Ms. Bess Thompson, Director, Ms. Karen Shambarger, Activity Director, Ms. Mary Anne Mosca, Social Worker, staff, and residents of Heartland of Marietta are acknowledged for their assistance in the project.

[1]Based on a paper presented at the 35th Annual Scientific Meeting of the Gerontological Society of America, Boston, November 21, 1982.

[2]Psychology Department, Marietta College, Marietta, Ohio 45750

Running Head: Bird-Feeder Intervention

CG 016724

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
George Banziger
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Abstract

This study is an elaboration of the control-relevant intervention used by Langer and Rodin (1976; Rodin and Langer, 1977) where a responsibility message and the opportunity to take care of a plant were introduced in a nursing home. This investigation used the intervention of (wild) bird feeders for the purpose of nursing home residents' taking regular responsibility for the care of wild birds. Forty male and female residents of a skilled-care nursing home were randomly assigned to one of three groups: 1) those who received (by their own choice) a bird feeder to be placed outside their windows and a responsibility message; 2) those who did not receive a bird feeder and who received a dependency message; 3) those who received neither a feeder nor a special message. In line with the Langer-Rodin results, significantly higher scores were obtained on post-than on pre-intervention measures of life-satisfaction and on self-reported responses of perceived control, happiness, and activity for the birdfeeder/ responsibility-message group, but not for either of the other two groups. Significant differences in the pre-post scores in the same direction were also found for the nurses' ratings of activity, happiness, alertness, sleeping time, complaints and sociability for the responsibility group.

Nursing Homes for the Birds:

A Control-Relevant Intervention with Bird Feeders

Social psychologists have attemtped to intervene with experiences to enhance ideas of predictability and control among institutionalized older people. Although the results of varying interventions have been mixed, there has been some measure of success for strategies which induce continued personal responsibility. Schulz (1976) initially discovered some positive impact of enhanced predictability and control of visitations on the well-being of institutionalized aged. A follow-up study, however, indicated that 24, 30, and 42 months after the intervention, the initial effects had disappeared and, in fact, those who experienced gains in predictability and control had later experienced declines in those variables (Schulz & Hanusa, 1978).

In contrast to these findings, Langer and Rodin who had initially intervened in a nursing home with a responsibility message and the opportunity to take care of a plant found both short-term gains in nurses' ratings, activity, and health (Langer & Rodin, 1976) and long-term improvements (Rodin & Langer, 1977) in similar areas, as well as in patient mortality. Schulz and Hanusa (1980) explain the apparent discrepancy in these findings by invoking the revised model of learned helplessness (Abramson, Seligman, & Teasdale, 1978); while it

cannot be proven that different attributions were involved in these two studies, Schulz and Hanusa claimed that in their study the initial positive changes produced by the control-relevant intervention were probably attributed to external, unstable, and specific factors, and, therefore, had no enduring effects. The communication given to the residents in the Rodin and Langer intervention, however, encouraged subjects to take responsibility for their lives in the nursing home, e.g. "I control important outcomes because I am responsible and competent, and this should not change as long as I am here." Attributions of subsequent positive change were probably made in this case to internal, stable, and global factors, as suggested by Schulz and Hanusa.

Many gerontologists have noted the tendency for nursing homes to nurture dependency behaviors and learned helplessness in residents. Avorn and Langer (1982) have described how the well intentioned helping behavior of staff members produces dependence in a nursing home, and Solomon (1982) has pointed out how the use of stereotypes and definition according to the sick role of health care workers can induce helplessness in the elderly. Solomon also indicated some educational programs for health care providers which might prevent this induction of elderly patients into the helpless, sick role.

It is important, however, to target residents themselves for intervention to prevent helplessness and dependency in

long-term care facilities. The latter was the focus of the Rodin-Langer investigations and of the Schulz-Hanusa studies. Recently Beck (1982) introduced an intervention similar to the Rodin-Langer technique (a control-relevant message and the opportunity to schedule nursing home events and to take care of a plant) and found significant improvements on nurses' ratings in the intervention group relative to a non-intervention comparative group.

As promising as these studies of control-relevant interventions are for ameliorating the dependency-inducing environments of nursing homes, there are still methodological flaws and limited specificity of findings in the research done to date. Although the results of the Rodin and Langer (1977) study are impressive, it is not clear whether the positive changes obtained were simply due to the contrast between the dependency and control-relevant group since there was no other comparative group. In these previous studies the initial status of the residents was not known; pre-post intervention measures in these studies would have contributed greatly to determining exactly how much change occurred. Interventions of different kinds need to be tried in order to examine the generalizability of these findings; so far the effects of opportunities to care for a plant, to schedule nursing home events, and to predict/control visitations have been examined.

The present study utilized the opportunity to care for birds in their natural setting by tending to individually

placed bird feeders as part of the intervention strategy. This intervention is different in that the object of care is not "captured" and under the direct control of the nursing home resident, but it is similar to previous interventions in that it requires the resident to be responsible for regular care of something in the immediate, personal environment of his/her room. In addition, pre- and post-intervention groups, an untreated comparative group, and a dependency-message group were obtained. This study then has replicated the responsibility-inducing intervention of the Rodin-Langer study, but it has also introduced three unique refinements: 1) the care of a bird feeder; 2) it has added another comparative group; and 3) it has examined pretest-posttest change scores on a variety of measures including nurses' ratings, life satisfaction measures, and self ratings of control, happiness, and activity, and medical status.

Method

Subjects

The study was conducted in a nursing home certified by the state of Ohio as an intermediate-care facility and offering medical, recreational, and residential facilities. The home is fairly large (capacity of 101) and all facilities are located on one floor. Of the 100 residents 40 males and females ranging in ages from 57 to 98 years were selected based on judgments of responsivity from the Activity Director and head nurses.

Residents were randomly assigned to three groups: 1) seven males and seven females (control-relevant group) received a message invoking responsibility, similar to the one given in the Rodin-Langer study, and had a chance to care for a bird feeder; 2) nine females and four males received a dependency message and no bird feeder, i.e. the dependency group; 3) nine females and four males received neither a bird feeder nor a responsibility message. One woman was omitted from the comparative group due to her death around the time of the intervention. Thus, 39 semi-ambulatory male and female nursing home residents, ranging in ages from 57 to 96 years, served as subjects.

Procedure

To introduce the intervention, the Activity Director called two meetings (one for the control-relevant group and one for the dependency group) where coffee and doughnuts were served. In the meeting with the experimental group the head administrator delivered the following message, which was similar to the communication given in the Rodin-Langer studies:

"I asked you here today for a short discussion. I was surprised to learn that many of you don't realize the influence you have over your own lives here. Take a minute to think of the decisions you should be making here. For example, you should be deciding on caring for yourselves and whether you want this home to be one you would be happy in. You should

be deciding how you want to spend your time, after all it is your life and you can make of it what you want. If you are unsatisfied with anything here, you have the influence to change it. It is your responsibility to make your complaints or suggestions known to us. We, here at Heartland, want to see you making your decisions. You have that responsibility. I wanted to ask you something. I've been informed that the birds are having a hard time finding food this season. I have some bird feeders here, and I want to ask you if you will take the responsibility for one of these. We'll put it up at your window, but it will be up to you to make sure that food is in it. When the food gets low, it will be up to you to let us know. It is your choice whether to accept it."

A meeting was then held for the dependency group. At this meeting the administrator delivered the following message, which again was similar to the dependency message delivered by Rodin and Langer:

"I asked you here today for a short discussion. I was planning on telling you of all the things we do for you. We allow you to visit in the lounge. We want your rooms to be as nice as they can be, and we have tried to make them that way. We feel that it is our responsibility to make this a home you can be proud of and happy in, and we want to do all we can to help you. If you have any complaints or suggestions, let any of the staff or myself know. After all, it is our

responsibility to serve you. We at Heartland believe that it is our job to see your happiness."

The main difference between the communications was that in the first case emphasis was placed upon the residents' responsibility for themselves, while in the second, emphasis was placed upon the staff's responsibility for them. Each resident of the responsibility-induced group was asked by one of the experimenters (GB) if they were willing to accept responsibility for a bird feeder and each one eagerly accepted the responsibility to care for a feeder. There was no difference in the amount of attention paid each group outside of the question regarding acceptance of a bird feeder.

The feeders were installed on March 15, 1982; the weather was warm (daytime temperatures above 70 degrees Fahrenheit the week before), but a two-week cold spell immediately followed. At the bird feeder installation a local bird magazine publisher went to each resident in the experimental group with two types of feeders: one a long thistle feeder, and the other a round dome feeder. She allowed each resident to examine the feeder and choose which type he/she wanted. Each control-relevant subject shared a room with another control-relevant subject. The feeders were hung at the residents' windows so that they were in the field of vision of the resident. Four days after the communications, the residents of the control-relevant and dependency groups were visited by one of the experimenters (SR) for a reminder of

the communications. To the control-relevant group she stressed their responsibility for helping birds by making sure bird seed was always available. To the dependency group she discussed the fine care they received at the nursing home, stressing how well the staff takes care of them.

Dependent Variables

Questionnaires. Two types of questionnaires were designed to assess the effects of induced responsibility. Each was administered two weeks prior to and three weeks after the intervention. The first was a residents' self-report which was administered directly to the residents by one experimenter (SR) during interviews for the life satisfaction scale. The questions, presented on seven-point scales (seven representing the highest value), dealt with how much control they felt over the main events of their lives, how happy and active they felt.

The second questionnaire, which was similar to that used by Rodin and Langer, was administered by two nurses on different shifts who were chosen by the Director for their frequent contact with the residents. This measure consisted of nine 10-point scales that asked for ratings of how happy, alert, dependent, sociable and active the residents were as well as questions about their eating and sleeping habits. There were also questions evaluating the proportion of weekly time the resident spent engaged in a variety of activities.

These included reading, watching television, visiting other patients, visiting outside the home, making requests of the staff, watching the staff, talking to the staff, sitting alone, doing nothing, and talking to others (Rodin & Langer, 1976).

Life satisfaction of residents was evaluated through interviews by one experimenter (SR) using the scale of life satisfaction developed by Neugarten, Havighurst, and Tobin (1961). The experimenter rated each subject on a five-point scale, one being very poor and five being very good, in each of the following areas:

(1) Zest versus apathy -- enthusiasm of response and degree of involvement;

(2) Resolution versus fortitude -- the extent to which a person accepts personal responsibility for his life;

(3) Congruence between desired and achieved goals;

(4) Self-concept -- concept of self, physical, psychological, and social;

(5) Mood tone.

For the purpose of this study a summary score of all five areas (unweighted) was recorded for each individual.

Medical Records. Both experimenters rated each resident's health on a nine-point scale, nine being excellent. These were done independently and based upon the nurses' monthly evaluation of each resident. Special attention was paid to diet and performance of basic functions, such as eating and eliminating.

Behavioral Measures. Attendance was noted by the Activity Director at events following the intervention. Observations by the nursing home staff were made for impressionistic evaluation of experimental effects.

Results

Questionnaires. Pretest-posttest scores were compared for each of the three groups. Matched *t*-test analysis indicated that there were significant increases in self-reported control, happiness, and activity from the pretest to posttest measurement for the control-relevant group, but there were no significant pretest-posttest differences for either of the other two groups. Means, standard deviations, and *t*-values are summarized in Table 1. Nurses' ratings showed similar results in favor of the control-relevant group, and these are also shown in Table 1. Six of the eight questions from the nurses' ratings showed highly significant pretest-posttest improvements. Two of the questions for the dependency group and four of the questions for the comparative group showed a modest improvement.

Insert Table 1 about here

Life Satisfaction. Significant increases were also found from pretest to posttest observation on this measure for the control-relevant group only. The mean ratings for

that group went from 17.57 (*SD* = 4.17) to 22.13 (*SD* = 2.72), *t* = 17.57, *df* = 13, *p* <.001. The mean pretest-posttest changes for the other two groups were less than one point each.

Medical Records. The independent ratings made by the two experimenters correlated at *r* = .71, *df* = 37, *p* <.01. However, no significant pretest-posttest differences were found in the ratings of medical records for any of the three groups.

Staff Observations and Impressions. Although no empirical data were recorded by the Activity Director, the Social Worker, and the Director, these individuals noted increased involvement, attendance at activities, and active questioning on the part of the control-relevant group. Several anecdotes regarding individuals in this group were provided to the experimenters. The Social Worker provided the following vignette in a description she wrote about resident reactions to the project:

"Ben X, the newest resident of the men I am evaluating, benefitted by this experience also, but in a different capacity. Ben read a book on birds, and this also was the beginning of new ties with other active male residents. Ben would notice other things outside his window, such as a rabbit, and verbalize his excitement about it and the number of birds at his feeder. This was a good experience for Ben and it brought him closer to other male residents. Also at the present time Ben is able to go home, however, he is torn between remaining at

Heartland of Marietta or going home."

And the Activity Director gave this account of a resident's assertive and responsible action after the bird-feeder intervention:

"I noted with delight the day, March 19th, when Joe came up his hall and hailed me down with touches of humor and demanding assertiveness in his voice as he chided: 'If you're going to go getting us all interested in birds, I think we need a book on the different kinds of birds! Not one on all birds, just birds of Ohio.' He proceeded to tell me where I might get one. When I indicated that I would see about getting everyone a copy of such a book, he said, 'Oh no, just one for the main desk since they s be about five or six dollars.' He said they could all share one. Joe E. had never initiated any conversation nor approached me outside of his room with even a hello. Not only did this express a new sense of assertiveness and independence (partially due to the message that they should be responsible for letting staff know their needs, etc., which they were given at the time the project began), but also his humorous side. Perhaps most importantly emerged the sense of belonging and confidence that he was important enough to make a purchasing request to the staff in following through with that responsibility message."

Since the experiment was conducted and the writing of this report (approximately four months), six of the participants

of the study have deceased. None of those deceased was in the control-relevant group.

Discussion

The results of the study support the findings of the initial studies by Langer and Rodin (1976), by Schulz (1976), and by Beck (1982). To whit, control-relevant interventions have positive effects on the self-reported psychological state of nursing home residents and on their condition as observed by others in the nursing home. This study reinforced such findings by providing three unique features not utilized in previous studies -- pretest and posttest measures of various self-report and observed dependent variables, another comparative group with no intervention, and the opportunity to care for bird feeders. The short-term positive effects of control-relevant interventions for nursing home residents have thus been demonstrated in different settings using a responsibility message/opportunity to care for plant, prediction and control of visits, and now a responsibility message/opportunity to care for a bird feeder.

The intervention described in this study is similar to that used by Rodin and Langer which produced enduring positive effects, as indicated by their 18-month follow-up. The present experimenters are collecting data on the same measures described here as part of their follow-up. It is expected that like the study by Rodin and Langer long-lasting effects will be

obtained from this intervention. Some anecdotal evidence from the nursing home over the summer following the intervention suggests that these effects may be taking place. One of the residents planted sunflowers early in the summer with the intention of using the seeds for the bird feeders. The sunflowers have bloomed and the seeds will be picked and used in the feeders during the fall.

Behavioral effects of the control-relevant intervention are perhaps the most important that should ultimately be obtained. Data on participation in activities, self-care skills, helping behaviors, complaints, and involvement in decision making should ideally be observed first hand. This type of observation, if done over a long period of time, would more strongly support the conclusions thus far reached in these studies.

It is not clear why medical ratings did not show pretest-posttest changes. Medical status may be fairly constant in this group, but ideally these measures should consist of primary data, such as vital signs, changes in chronicity, and should be collected and recorded by nurses and/or physicians.

Although various studies have supported the conclusion of a beneficial effect of control-relevant interventions, some methodological improvements in these studies need to be made. In experiments such as the one described here and the

Rodin-Langer experiment, it is not known whether the responsibility message or the opportunity to care for the bird feeder was responsible for the improvement. Future studies should separate these interventions as well as combine them, in order to examine their individual effects and their collective, possibly synergistic, effects. The way Rodin and Langer (1980) described the intervention, the responsibility message seems to be the more important aspect of the intervention; the impression of the present investigators, however, is that the effects of the message were shortlived and the reminder of it given later probably did not seriously change residents' attitudes; the intervention of the bird feeder, on the other hand, was a unique event that probably accounted for most of the change in the control-relevant group.

Future experiments should also utilize "blind" experimenters who do not know which experimental group residents are in. The presence of bird feeders and a responsibility message is, of course, a dead give-away to residents that they are in a treatment group, and this is unavoidable. Controls might be introduced, however, so that experimental interviewers and staff do not know which residents are in the control-relevant group. A general ambience of attention, i.e., a kind of Hawthorne effect, may emerge in any kind of study like this for the control-relevant group (in fact, it may happen to some extent in the other groups, as suggested

by the modest improvements shown on some of the nurses' ratings for the other two groups); efforts should be made in designing these experiments so that the intervention involves a means of enhanced control; a comparative group which then receives attention without control could be used as a standard.

An important theoretical question to be answered after more is known about these interventions is what, in fact, is changing when a control-relevant intervention is introduced. In the case of nursing home residents it seems that something akin to learned helplessness with its attendant debilitating attributions (Abramson, Seligman & Teasdale, 1978) develops if the residents are not allowed to exert any influence on their outcomes. The benefit of control-relevant interventions probably lies in the cognitive changes (e.g., "I am in control of at least some things in this place."), behavioral changes, such as increased activity and involvement in decisions, and changes in affect, e.g., feeling happier. Evidence is needed that these interventions actually produce changes in all three of these areas and perhaps indicate the order of influence of these factors.

There are some unique benefits of a bird-feeder intervention, such as the opportunity for residents to assist in performing an ecologically important deed with non-captive living things, but there are also some special risks. The placing of the feeders should be timed well, in the late fall when food in the natural setting is becoming scarce; the nursing

home should ideally be situated where the natural shelter of trees is close to the feeders and should be near major bird migratory paths. Nursing home staff who would consider introducing bird feeders to residents should keep these practical considerations in mind.

Ethical considerations should also be kept in focus with this type of intervention. Choice of taking a feeder must be given to the residents, and when the experiment is completed, the participants who were not involved in the control-relevant intervention must then be given the chance to have a feeder. Lastly, there must be concern that once a commitment to make feeders available to birds is made, for the sake of the birds, the feeders be kept full as long as they are needed. If all these considerations are taken into account, residents, birds, staff, and gerontologists can probably benefit from a bird-feeder intervention.

References

Abramson, L.Y., Seligman, M.E.P., and Teasdale, J.D. Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 1978, 87, 49-74.

Avorn, J. and Langer, E. Induced disability in nursing home patients: A controlled trial. Journal of the American Geriatrics Society, 1982, 30, 397-400.

Beck, P. Two successful interventions in nursing homes: The therapeutic effects of cognitive activity. The Gerontologist, 1982, 22, 378-383.

Langer, E. and Rodin, J. The effects of choice and enhanced personal responsibility for the aged: A field experiment in an institutional setting. Journal of Personality and Social Psychology, 1976, 34, 191-198.

Neugarten, B.L. The measurement of life satisfaction. Journal of Gerontology, 1961, 16, 134-143.

Rodin, J. and Langer, E. Long-term effects of a control-relevant intervention with the institutionalized aged. Journal of Personality and Social Psychology, 1977, 35, 897-902.

Schulz, R. The effects of control and predictability on the psychological and physical well-being of the institutionalized aged. Journal of Personality and Social Psychology, 1976, 33, 563-573.

Schulz, R. and Hanusa, B.H. Long-term effects of control and predictability-enhancing interventions: Findings and ethical issues. Journal of Personality and Social Psychology, 1978, 36, 1194-1201.

Schulz, R. and Hanusa, B.H. Experimental social gerontology: A social psychological perspective. Journal of Social Issues, 1980, 36, 30-46.

Solomon, K. Social antecedents of learned helplessness in the health care setting. The Gerontologist, 1982, 22, 282-287.

Table 1

Summary of Pretest and Posttest Comparisons
(Means, Standard Deviations, and t-tests)
for Three Groups: Self-report Ratings and Nurses' Ratings

	Control-Relevant Group[a]			Dependency Group[b]			Comparative Group[c]		
	Pretest Means (SD's)	Posttest Means (SD's)	t	Pretest Means (SD's)	Posttest Means (SD's)	t	Pretest Means (SD's)	Posttest Means (SD's)	t
Self-report									
Control	3.50(.73)	5.07(.46)	7.13***	3.46(.63)	3.15(.36)	2.44	3.42(.86)	3.25(1.01)	<1.0
Happiness	4.07(.80)	5.42(.73)	10.38***	3.61(.39)	3.69(.61)	<1.0	3.83(1.14)	3.67(.94)	<1.0
Activity	3.21(1.42)	5.00(1.07)	6.92***	2.31(.99)	2.38(1.00)	<1.0	3.00(1.68)	2.41(1.71)	1.88
Nurses' Ratings									
Sociability	5.86(1.85)	7.93(2.63)	4.91***	5.31(2.49)	6.07(3.07)	<1.0	4.75(7.78)	6.25(2.58)	3.20**
Activity	5.86(2.20)	7.92(2.52)	3.52**	4.08(2.30)	4.54(2.98)	<1.0	5.42(2.90)	7.00(3.03)	<1.0
Happiness	5.86(1.51)	7.43(2.99)	2.38*	4.92(1.82)	5.84(3.03)	1.24	4.50(2.25)	6.25(2.45)	3.09**
Alertness	7.28(2.19)	9.43(.90)	4.98***	5.15(2.93)	7.07(3.07)	2.81*	4.16(2.51)	5.92(1.02)	2.32*
Sleeping	7.43(2.73)	9.00(1.00)	3.94**	8.15(1.51)	7.15(2.07)	1.45	7.75(1.83)	7.25(3.00)	<1.0
Complaints	5.25(2.46)	7.00(2.70)	3.38**	4.92(2.20)	7.46(2.79)	3.43**	4.83(2.79)	6.75(2.92)	1.79
Dependent	7.36(2.47)	7.42(3.20)	<1.0	4.85(3.01)	4.30(3.26)	<1.0	5.50(2.81)	5.25(3.00)	<1.0
Making Requests	4.20(2.23)	5.07(2.37)	1.12	4.69(1.73)	6.00(2.77)	1.63	4.41(2.47)	6.08(2.93)	2.93*

[a] n = 14
[b] n = 13
[c] n = 12

*p <.05
**p <.01
***p <.001